# ADOT
# Air Quality Management Guidebook

## Mitigation Measures and Transportation Control Measures

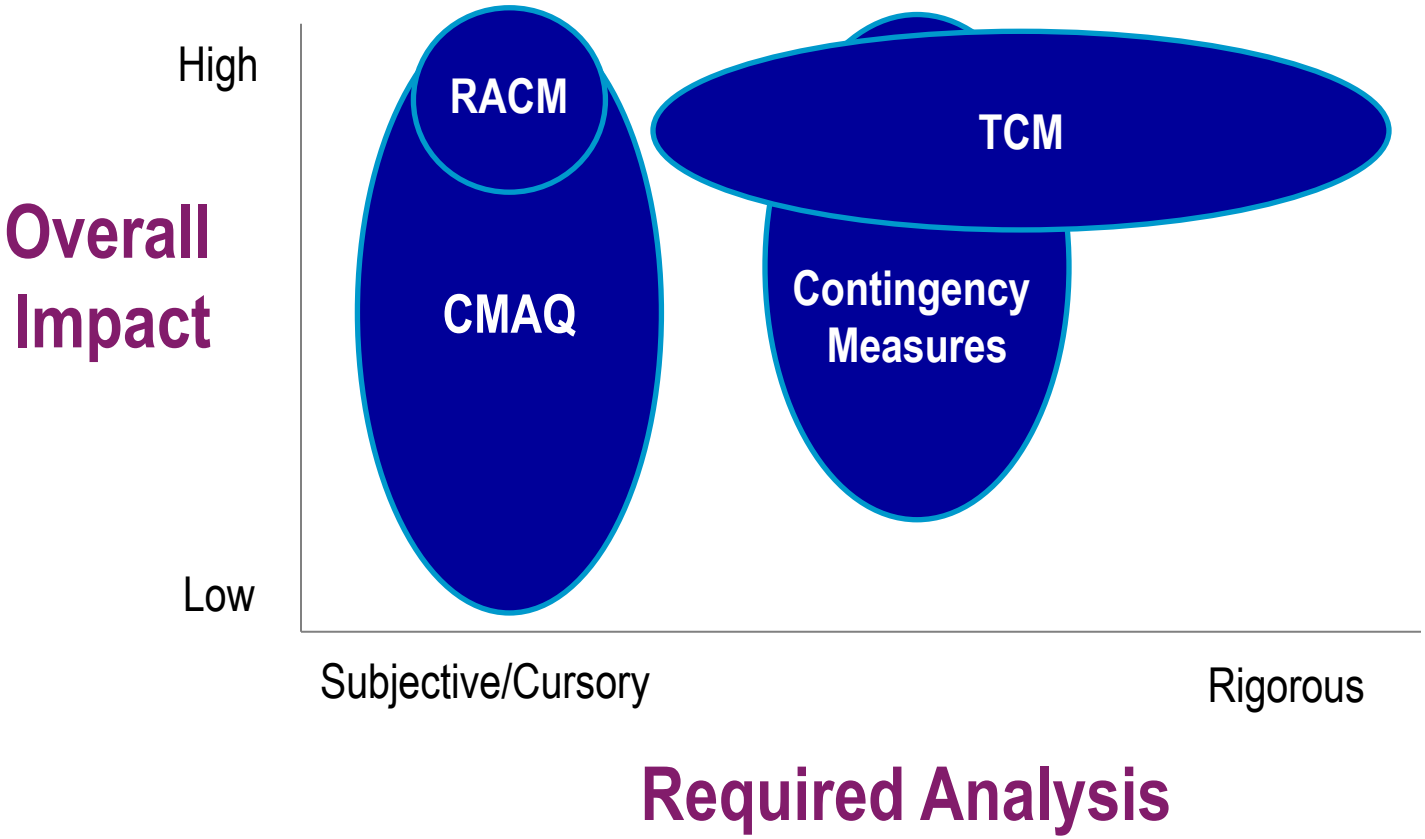
**Goal: Document Existing ADOT Processes & Provide Recommendations for Updates**

# Development of Mitigation Measures and Transportation Control Measures

- What is a TCM?
- Assessment of Current Methodologies
- Research and Development
  - Project Types
  - Methodology Development
- Recommendations

**Goal: Document Existing ADOT Processes & Provide Recommendations for Updates**

# Mitigation and Transportation Control Measures
## *Are they all TCMs?*



# Mitigation and Transportation Control Measures
## *Assessment of Current Methodologies*

- Arizona is Unique
- Documented Approaches and Analyses in Arizona (SIPs, CMAQ, Others?)
- Work to Date
  - Review Existing Documents
  - Review of Other States

# Mitigation and Transportation Control Measures
## *Recommended Approach*

- Assemble project types and methods from MAG
- Remove MAG specific values/calculations
- Check against AP-42 methods (Fugitive Dust)
- Rework MOBILE approaches to MOVES
- Update emission rates as reasonable
- Develop spreadsheet to assist in calculations
- Add projects types

# Mitigation and Transportation Control Measures

## *Project Types – $PM_{10}$ and $PM_{2.5}$*

**Dust Mitigation projects build on existing ADOT work:**

- Unpaved Road Treatments
- Unpaved Road Improvements
- Road/Alleyway Paving
- Paving Shoulder/Gutter/Curb
- Paving Bicycle Trails
- "Certified" Sweepers


# Mitigation and Transportation Control Measures

## *Project Types – $PM_{10}$ and $PM_{2.5}$*

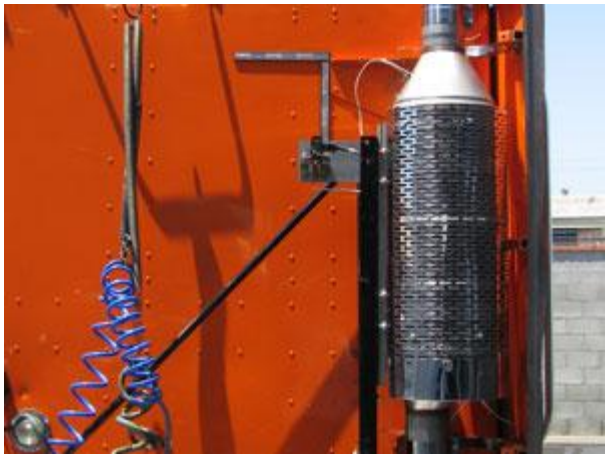
### Construction related emissions:

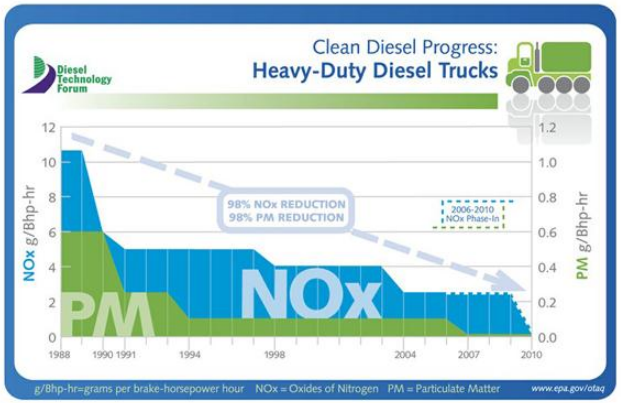
- Use 2009 ADOT study is one option (activity data)
- Vehicle emissions can be looked at using NMIN or NONROAD derived rates + certified retrofit reductions + assumptions on use if no activity data available

# Mitigation and Transportation Control Measures
## *Project Types – $PM_{10}$ and $PM_{2.5}$*

### On-road retrofits:

- Opportunities are dwindling
- ADOT existing approach is appropriate
- Emission Factors need to be updated using MOVES
- Use EPA Retrofit Calculator if feasible





# Mitigation and Transportation Control Measures
## *Project Types – $PM_{10}$ and $PM_{2.5}$*

## Non-Road Retrofits:

- Certification dictates reduction credit
- CA certified retrofits are PM only
- Likely are Ozone related benefits
- 2008 Tier 3 was enacted: fewer upgrade opportunities
- Apply certified reductions to NONROAD emission rates


# Mitigation and Transportation Control Measures
## *Project Types – All Pollutants*

### Truck stop anti-idling:

- Use local usage data or 10 hour/day/space assumption (conservative)
- Need to develop MOVES emission rates

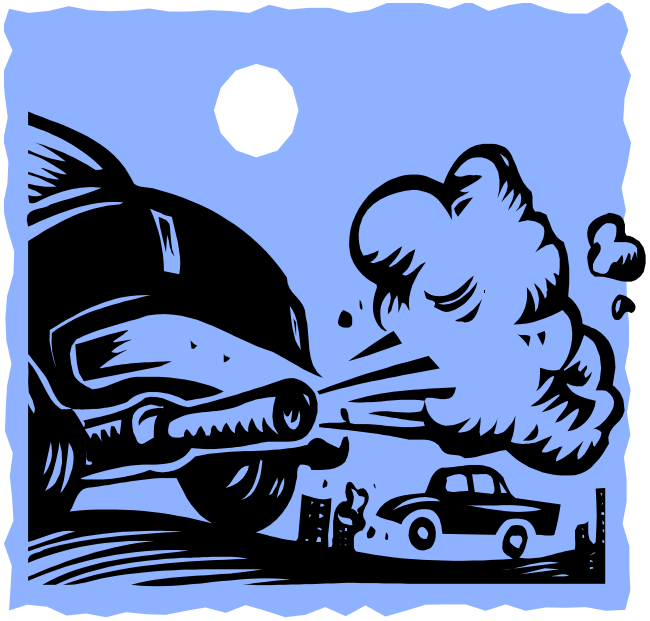

### Regional anti-idle regulations:

- Methodology unavailable

# Mitigation and Transportation Control Measures
## *Project Types – All Pollutants*

### Expanded/Enhanced I/M:

- High impact
- Limited Opportunities
- Best addressed when developing baseline MVEB (previous section)



# Mitigation and Transportation Control Measures
## *Project Types – All Pollutants*

### Trip Reduction Measures

- **MAG CMAQ methods appropriate for most**
  - ✓ Bike/Ped
  - ✓ Transit
  - ✓ Park and Ride
- **Trip Reduction Programs/Measures**
  - ✓ Approach is optimistic

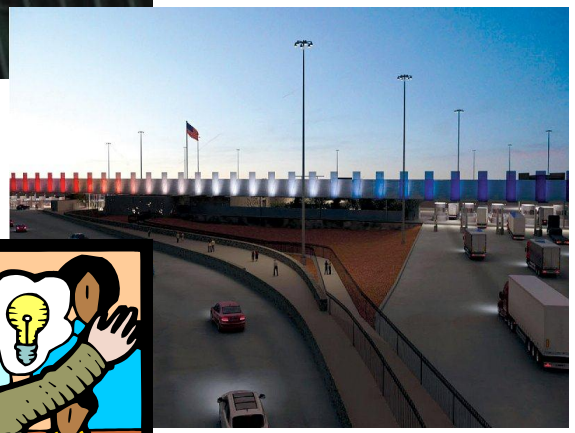

# Mitigation and Transportation Control Measures
## *Project Types – All Pollutants*

### Traffic Signal Coordination

- Evolving
- No guidance
- Sample intersection

### Land Ports of Entry

- USVISIT studies may be available



### Anything missing?

# TCMs

## *What is in the Guidebook?*

Spreadsheet-Based Calculation Template

- Review of Existing Requirements & Practices
- Analytical Requirements
- Analytical Tools (MOVES & AP-42)
- Methods & Examples
  - Dust Mitigation Projects
  - Vehicle Control Measures
  - Additional Significant Control Measures
  - Trip Reduction Measures
  - Traffic Flow Improvements